

Methods, Glossary and Data Sources

METHODS

Measures

This report provides county rankings of selected public health measures, including demographic, natality, mortality and morbidity data. A detailed listing of data sources is provided in the last section of the report. Measures are based on combined data for three years, 1998 to 2000. Combining data is necessary because, for many smaller counties, there is insufficient single year data to provide reliable rates.

Rates

Demographic measures are presented as percentages of the total population. Natality measures are expressed either as a percentage of live births or as a rate per 1,000 of the relevant population. Mortality and morbidity measures are expressed as a rate per 100,000 population. Infant mortality rates are expressed as the number of infants dying in a calendar year per 1,000 live births for the same year. All population based rates utilize estimated population data for years 1998 and 1999 and U.S. census data for year 2000 from Texas State Data Center, Department of Rural Sociology, Texas Agricultural Experiment Station, Texas A & M University System.

Age Adjustment

For comparison purposes, mortality measures are age-adjusted to control for the effect of different age distributions among populations. This report presents mortality rates adjusted to the year 2000 Standard Population, in accordance with recommendations from the National Center for Health Statistics. In general, rates adjusted to the 2000 standard are considerably higher than those using the 1940 standard.

ICD Codes

Beginning with 1999 data, the classification of cause of death has changed. The International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) has replaced the 9th revision (ICD-9). Differences between these coding systems may affect some rates and make comparisons inaccurate; a table illustrating comparability ratios between the two systems is provided in an appendix to this report.

Ranking Algorithm

Counties are ranked from highest (rank of 1) to lowest values, with the same rank given to identical values. When more than one county has the same rank, the next lower county is given a rank that reflects the number of counties with higher values. For example if three counties are ranked 5, the county with the next lower value will be ranked 8. Despite the use of three-year observations, some counties have insufficient data to provide a reliable rate for ranking. Counties not meeting statistically determined limits for a given measure are not ranked. Although rates are provided for these unranked counties, they should be used with considerable caution as they are susceptible to large year-to-year variation and may not provide consistent estimates.

Maps

Maps illustrate values and rates for all measures for all counties, whether they were ranked or not. Except where otherwise noted, data are organized in quartiles. That is, the ordered data are divided into four discrete categories, each having an equal number of data items.

Rounding Effects

Rates and percentages are rounded to one decimal place and average counts to whole numbers. Since the tables present average values for a three year period, an event occurring once in three years would produce a count of 0 (0.3333 rounded down). The rate however could be non-zero, since it is calculated by dividing the number of events in three years by the sum of the appropriate denominators for three years.

GLOSSARY

Accidental death: Death to external causes from accidents (ICD-9 codes E800-E969, E880-E929; ICD-10 codes V01-X59, Y85-Y86).

Adjusted rate: A rate that has taken into account influences on a crude rate, such as differences in age composition of the population.

Adolescent births: Births to mothers less than 18 years of age.

Age-specific rate: A rate for specific age group. The numerator and denominator refer to the same age group.

AIDS: Acquired Immune Deficiency Syndrome caused by the Human Immunodeficiency Virus (HIV).

Cancer: Deaths due to malignant neoplasms (ICD-9 codes 140-208; ICD-10 codes C00-C97).

Cause of death: Any condition which leads to or contributes to death and is classifiable according to the ninth or tenth revisions of The International Classification of Diseases (ICD-9 or ICD-10).

Cohort: A group of individuals sharing a common demographic experience with respect to an observed period of time (e.g., individuals sharing the same birth year or years, individuals who fall in a specified age range.)

CLRD: Chronic lower respiratory diseases (ICD-9 codes 490-496; ICD-10 J40-J47).

Crude rate: The rate of any demographic or vital event that is based on an entire population.

Demography: The study of populations including their size, age-sex composition, distribution, density, growth, natality, mortality, nuptiality, migration, and any other characteristics which may affect these factors.

Diabetes: Deaths due to diabetes mellitus (ICD-9 code 250, ICD-10 E10-E14).

Ethnicity: The classification of a population that shares common characteristics, such as, religion, traditions, culture, language, and tribal or national origin.

Fertility: The actual reproductive performance of an individual, couple or a population.

Fertility rate: The number of live births per 1,000 women ages 15-44 years in a given year.

Heart Disease: Deaths classified by ICD-9 as 390-398, 402, 404-429 or by ICD-10 as I00-I09, I11, I13, I20-I51.

ICD-9: The International Classification of Diseases, 9th edition. A system for classifying diseases and injuries developed by the World Health Organization and used worldwide to improve comparability of cause of death statistics reported from different countries. The ninth revisions was used to code/classify deaths from 1979 to 1998.

ICD-10: The International Statistical Classification of Diseases and Related Health Problems, 10th Revision. A system for classifying diseases and injuries developed by the World Health Organization and used worldwide to improve comparability of cause of death statistics reported from different countries. Use of the tenth revision by State and Federal agencies began in January, 1999.

Late or no prenatal care: Prenatal care beginning during the fourth through ninth month of pregnancy or no prenatal care at all.

Live birth: The complete expulsion or extraction from its mother of a product of conception, regardless of the duration of the pregnancy, which after expulsion shows any vital signs (heart beat, voluntary breathing, umbilical cord pulsation, or voluntary muscle movement).

Low birth weight: A birth weight less than 2,500 grams or less than 5 pounds, 9 ounces.

Mean: The arithmetic average of a set of values. It is calculated as the sum of the values divided by the number of values.

Minority population: Individuals categorized by race or ethnicity as black, Hispanic, or other.

Morbidity: Refers to the occurrence of diseases in a population or disease as a component or population change.

Mortality: Death as a component of population change.

Natality: Birth as a component of population change.

Population: The total of all individuals in a given area.

Quartile: Ordered values of a measurement which are subdivided into four equal quarters.

Race: A geographical population of humankind that possesses inherited distinctive physical characteristics that distinguish it from other populations.

Rate: The frequency of an event in a specified period of time divided by the population at risk for the event.

Residence: The geographic area of the usual place of abode.

Residence data: Data compiled by the usual place of residence without regard to the geographic place where the event occurred. For births and fetal deaths the mother's usual residence is used as the place of residence.

Stroke: Deaths classified by ICD-9 as 430-438 or by ICD-10 as I60-I69.

Unemployment rate: The percent of employable people actively seeking work, out of the total number of employable people.

ICD-9 to ICD-10 COMPARISONS FOR SELECTED CAUSES OF DEATHS INCLUDED IN THIS REPORT

Cause of Death	ICD-9	ICD-10	Comparability Ratio	Standard Error
Heart Disease	390-398,402, 404, 410-429	I00-I09,I11, I13,I20-I51	0.99	0.0002
Stroke	430, 434, 436-438	I60-I69	1.06	0.0008
Cancer	140-208	C00-C97	1.01	0.0002
Chronic Lower Respiratory Disease*	490-494, 496	J40-J47	1.05	0.0009
Diabetes	250	E10-E14	1.01	0.0011
Accidents**	E800-E869, E880-E929	V01-X59, Y85-Y86	1.03	0.0014

* Chronic Obstructive Pulmonary Disease in ICD-9

** Does not include adverse effects

Comparability Ratio: Value describing the similarity between the ICD-9 and ICD-10 classification methods. Obtained by dividing the number of deaths for a selected cause of death classified by ICD-10 by the number of deaths classified to the most nearly comparable cause classified by the ICD-9. The resulting value represents the net effect of the revision on statistics for this cause. The ratio can also be used as an adjustment factor for mortality statistics previously classified by the ICD-9 revision. For example, a comparability ratio of 1.30 indicates that 30% more deaths were assigned to a category under ICD-10 than would have been assigned to the category using ICD-9. Comparability ratios provided in this table are preliminary values published by NCHS.

The ICD-9 codes listed for these causes of death best match the ICD-10 codes used for computing comparability ratios and may not match ICD-9 codes used for computing these cause categories for deaths on or before 1998. A listing of ICD-9 codes used for computing causes for 1997 and 1998 in this report can be found in the glossary.

Source: Deaths: *Comparability of Cause-of-Death Classification Between the Ninth and Tenth Revisions of the International Classification of Diseases: Preliminary Estimates and Analysis*, Anderson, R.N., Minino, A., Hoyert, D.L., and Rosenberg, H.M., National Center for Health Statistics, CDC, 2001.

DATA SOURCES

Demography

Population, ethnicity, gender, and age distributions:

Texas State Data Center, Department of Rural Sociology, Texas Agricultural Experiment Station, Texas A & M University System. Released October 2001

Unemployment rates:

"Civilian Labor Force Estimates, Texas Counties, Annual Average 1998-2000," Texas Workforce Commission.

Natality

Live births, adolescent mothers, unmarried mothers, low birth weight and late or no prenatal care:

Texas Department of Health, Bureau of Vital Statistics.

Fertility rate:

Calculated using live birth data from Texas Department of Health, Bureau of Vital Statistics.

Communicable Diseases - Reported Cases

Sexually Transmitted Diseases:

Gonorrhea, Chlamydia, and AIDS Incidence. Texas Department of Health, Bureau of HIV and STD Prevention, HIV/STD Epidemiology Division.

Mortality

Deaths from all causes, heart disease, stroke, all cancers, chronic lower respiratory disease, diabetes, unintentional injury (accidents)

Number of deaths: Texas Department of Health, Bureau of Vital Statistics.

Age-adjusted death rates: Texas Department of Health, Office of Health Information and Analysis, using the 2000 standard population.

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